

# National report on students commencing medical school in New Zealand in 2015-2019

July 2019

## Prepared by:

The New Zealand MSOD Steering Group.

## University of Otago:

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and A. Beer.

## University of Auckland:

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Division of Health Sciences  
*Te Wāhanga Mātau Hauora*



**MEDICAL AND  
HEALTH SCIENCES**

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OTAGO MEDICAL SCHOOL  
*Te Kura Hauora o Ōtākou*



**MEDICAL AND  
HEALTH SCIENCES**

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## 1. Introduction

The Medical Schools Outcomes Database and Longitudinal Tracking Project (MSOD) is an on-going collaborative longitudinal study that is conducted under the auspices of Medical Deans Australia and New Zealand (MDANZ). The project has been operating since 2005.

In New Zealand, data are collected directly from students at entry to medical school (Year 2 in New Zealand), through the Commencing Medical Students Questionnaire (CMSQ); at the end of their final year of medical school, through the Exit Questionnaire (EQ); and one, three, and five years after completion of their medical studies (PGY1, PGY3, PGY5). From 2019 onwards, surveys will also be conducted eight years after graduating from medical school (PGY8).

Information on student placements and electives is collected directly from medical schools throughout the duration of the programme. The purpose is to gain better understanding of the factors that influence career choices throughout the continuum of training. Such questions will be answerable once the longitudinal data collection has followed enough students into their early postgraduate years where they make career choices.

This report presents summary data from the 2015-2019 CMSQ for University of Auckland and University of Otago medical students.

## 2. Method

At the commencement of their medical programme, students were invited to participate in the MSOD Commencing Medical Students Questionnaire (CMSQ) survey. University of Otago students completed on-line questionnaires, and University of Auckland students completed a paper version of the questionnaire. The two sets of data from each year were combined to form national data sets.

### 2.1. Questionnaire

The 18-question CMSQ gathers student information about basic demographic details, enrolment characteristics, previous tertiary education and plans for the future. The majority of the questions are quantitative. The questionnaire were largely stable throughout this reporting period, with only three changes made: a *gender diverse* option was added to the gender question in 2018; the *Oral and Maxillofacial Surgery* specialisation option was removed in 2018 (this option is only achievable by BDS graduates, who may enter the programme at year 4 at Otago); and the partner occupation question removed in 2019.

University of Otago study data were collected and managed using the Research Electronic Data Capture (REDCap) tool<sup>1</sup> hosted at the University of Otago. REDCap is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources. University of Auckland administered a paper version of the questionnaire to their graduates. The two sets of data from each year were combined to form national data sets.

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<sup>1</sup> Paul A. Harris, Robert Taylor, Robert Thielke, Jonathon Payne, Nathaniel Gonzalez, Jose G. Conde, Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support, *J Biomed Inform.* 2009 Apr;42(2):377-81

## 2.2. Response rate

Over the five-year period a total of 2,821 medical students commenced medical school in New Zealand (**Table 1**). A CMSQ was completed by 2,586 students (**Table 1, Table 2**), an overall response rate of 92% (**Table 1**).

**Table 1.** Response rate by university of students entering medical school (pool) and CMSQs

Medical School/Programme	2015			2016			2017		
	Pool	n	%	Pool	n	%	Pool	n	%
University of Auckland	270	270	100%	272	267	98.2%	271	271	100%
University of Otago	291	225	77.4%	288	258	89.6%	292	275	94.2%
<b>Total responses</b>	<b>561</b>	<b>495</b>	<b>88.2%</b>	<b>560</b>	<b>525</b>	<b>93.8%</b>	<b>563</b>	<b>546</b>	<b>97.0%</b>

  

Medical School/Programme	2018			2019			Total		
	Pool	n	%	Pool	n	%	Pool	n	%
University of Auckland	282	267	94.7%	273	253	92.7%	1368	1328	97.1%
University of Otago	292	258	88.4%	290	242	83.4%	1453	1258	86.6%
<b>Total responses</b>	<b>574</b>	<b>525</b>	<b>91.5%</b>	<b>563</b>	<b>495</b>	<b>87.9%</b>	<b>2821</b>	<b>2586</b>	<b>91.7%</b>

**Table 2.** Number of CMSQ respondents by university

Medical School/Programme	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
University of Auckland	270	54.5%	267	50.9%	271	49.6%	267	50.9%	253	51.1%	1328	51.4%
University of Otago	225	45.5%	258	49.1%	275	50.4%	258	49.1%	242	48.9%	1258	48.6%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>

Base: all respondents

### 3. Results

#### 3.1. Respondents characteristics

Overall, and in each year, there were more female (59%) than male (41%) respondents (**Table 3**).

**Table 3.** Gender of respondents

Gender	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Female	282	57.0%	311	59.4%	324	59.4%	303	58.2%	292	59.2%	1512	58.7%
Gender diverse*	–	–	–	–	–	–	2	0.4%	3	0.6%	5	0.2%
Male	213	43.0%	213	40.6%	221	40.6%	216	41.5%	198	40.2%	1061	41.2%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>524</b>	<b>100.0%</b>	<b>545</b>	<b>100.0%</b>	<b>521</b>	<b>100.0%</b>	<b>493</b>	<b>100.0%</b>	<b>2578</b>	<b>100.0%</b>

Base: all responses

\*First included as a response in 2018

Respondent ages, as calculated at 1 January in the year surveyed, were grouped into five-year age ranges; the results are presented in **Table 4**: the majority (61%) of respondents were under 20 years of age.

**Table 4.** Age range of respondents

Age group	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
under 20 years	304	61.8%	319	61.5%	344	63.1%	306	58.4%	296	59.9%	1569	61.0%
20-24 years	144	29.3%	146	28.1%	156	28.6%	169	32.3%	149	30.2%	764	29.7%
25-29 years	29	5.9%	34	6.6%	34	6.2%	31	5.9%	33	6.7%	161	6.3%
30-34 years	9	1.8%	13	2.5%	8	1.5%	11	2.1%	11	2.2%	52	2.0%
35-39 years	6	1.2%	6	1.2%	3	0.6%	6	1.1%	4	0.8%	25	1.0%
40 years and over	–	–	1	0.2%	–	–	1	0.2%	1	0.2%	3	0.1%
<b>Total responses</b>	<b>492</b>	<b>100.0%</b>	<b>519</b>	<b>100.0%</b>	<b>545</b>	<b>100.0%</b>	<b>524</b>	<b>100.0%</b>	<b>494</b>	<b>100.0%</b>	<b>2574</b>	<b>100.0%</b>

Base: all responses

Respondents were asked to indicate which ethnic group(s) they belonged to. In the five-year period, 15% of respondents identified as Māori and 7% as Pacific people (**Table 5**).

**Table 5.** Ethnicity of respondents

Ethnicity	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
New Zealand European	299	60.4%	295	56.2%	311	57.0%	293	55.8%	279	56.4%	1477	57.1%
Māori	60	12.1%	76	14.5%	93	17.0%	93	17.7%	74	14.9%	396	15.3%
Pacific peoples	18	3.6%	38	7.2%	36	6.6%	45	8.6%	48	9.7%	185	7.2%
Other	192	38.8%	209	39.8%	224	41.0%	208	39.6%	195	39.4%	1028	39.8%

Base: all respondents

Percentages total more than 100% as multiple responses were accepted



### 3.2. Relationship status and dependents

The majority of respondents indicated they were *single* (75%) or *in a relationship but not living with partner* (17%) (**Table 6**).

**Table 6.** Relationship status of respondents

Relationship status	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Single	382	78.0%	382	73.5%	421	77.4%	374	71.2%	372	75.8%	1931	75.1%
In a relationship but not living with partner	74	15.1%	94	18.1%	82	15.1%	98	18.7%	83	16.9%	431	16.8%
Living with partner	27	5.5%	31	6.0%	26	4.8%	35	6.7%	28	5.7%	147	5.7%
Married	6	1.2%	11	2.1%	14	2.6%	18	3.4%	6	1.2%	55	2.1%
Separated	–	–	1	0.2%	–	–	–	–	1	0.2%	2	0.1%
Divorced	1	0.2%	1	0.2%	–	–	–	–	1	0.2%	3	0.1%
Widowed	–	–	–	–	1	0.2%	–	–	–	–	1	0.0%
<b>Total responses</b>	<b>490</b>	<b>100.0%</b>	<b>520</b>	<b>100.0%</b>	<b>544</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>491</b>	<b>100.0%</b>	<b>2570</b>	<b>100.0%</b>

Base: all responses

Ninety-eight percent of respondents reported having no children under the age of 16 years. A similar proportion (99%) reported having no other dependents (**Table 7**).

**Table 7.** Number of children and dependents of respondents

Dependents	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
<b>Number of children</b>												
0	488	98.6%	516	98.3%	536	98.2%	515	98.1%	489	98.8%	2544	98.4%
1	3	0.6%	6	1.1%	6	1.1%	4	0.8%	3	0.6%	22	0.9%
2 or more	4	0.8%	3	0.6%	4	0.7%	6	1.1%	3	0.6%	20	0.8%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>
<b>Other dependents</b>												
0	488	98.6%	520	99.0%	545	99.8%	521	99.2%	489	98.8%	2563	99.1%
1	5	1.0%	5	1.0%	–	0.0%	3	0.6%	4	0.8%	17	0.7%
2 or more	2	0.4%	–	–	1	0.2%	1	0.2%	2	0.4%	6	0.2%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>

Base: all responses

### 3.3. Respondents background

The majority of the respondents (86%) were New Zealand citizens (this includes those with dual citizenship) or were New Zealand Permanent Residents (8%) (Table 8).

Overall, two-thirds (67%) of respondents were born in New Zealand (Table 9). Of those who identified themselves as domestic students, 15% were born in the UK, 12% in India, and 10% in China (not SARs or Taiwan) (Table 10).

The majority of the international students were born in Brunei (15%), followed by Singapore (13%) (Table 11).

**Table 8.** Citizenship of respondents

Citizenship	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
New Zealand citizen	433	87.8%	454	87.0%	459	84.2%	444	85.1%	434	87.9%	2224	86.3%
New Zealand Permanent Resident	29	5.9%	38	7.3%	50	9.2%	43	8.2%	33	6.7%	193	7.5%
Australian citizen	2	0.4%	4	0.8%	7	1.3%	4	0.8%	2	0.4%	19	0.7%
Student Visa holder	27	5.5%	24	4.6%	25	4.6%	30	5.7%	24	4.9%	130	5.0%
Other	2	0.4%	2	0.4%	4	0.7%	1	0.2%	1	0.2%	10	0.4%
<b>Total responses</b>	<b>493</b>	<b>100.0%</b>	<b>522</b>	<b>100.0%</b>	<b>545</b>	<b>100.0%</b>	<b>522</b>	<b>100.0%</b>	<b>494</b>	<b>100.0%</b>	<b>2576</b>	<b>100.0%</b>

Base: all responses

**Table 9.** Country of birth

Country of birth	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
New Zealand	328	66.3%	358	68.2%	350	64.1%	348	66.3%	336	67.9%	1720	66.5%
Other than New Zealand	167	33.7%	167	31.8%	196	35.9%	177	33.7%	159	32.1%	866	33.5%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>

Base: all responses

**Table 10.** Overseas country of birth of domestic students

Country of birth	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Australia	–	–	2	1.4%	12	7.2%	16	12.3%	10	7.8%	40	5.7%
China (not SARs or Taiwan)	21	15.3%	15	10.8%	8	4.8%	19	14.6%	8	6.3%	71	10.1%
India	13	9.5%	22	15.8%	20	12.0%	15	11.5%	15	11.7%	85	12.1%
Korea (Republic of South Korea)	19	13.9%	10	7.2%	19	11.4%	4	3.1%	6	4.7%	58	8.3%
United Kingdom	19	13.9%	20	14.4%	24	14.5%	19	14.6%	24	18.8%	106	15.1%
Other countries (n<10)	65	47.4%	70	50.4%	83	50.0%	57	43.8%	65	50.8%	340	48.6%
<b>Total responses</b>	<b>137</b>	<b>100.0%</b>	<b>139</b>	<b>100.0%</b>	<b>166</b>	<b>100.0%</b>	<b>130</b>	<b>100.0%</b>	<b>128</b>	<b>100.0%</b>	<b>700</b>	<b>100.0%</b>

Base: respondents indicating they were a domestic student

**Table 11.** Overseas country of birth of international students

Country of birth	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Brunei	5	18.5%	5	22.7%	3	12.5%	2	6.7%	5	20.8%	20	15.7%
Oman	5	18.5%	2	9.1%	3	12.5%	2	6.7%	1	4.2%	13	10.2%
Singapore	3	11.1%	2	9.1%	5	20.8%	3	10.0%	4	16.7%	17	13.4%
Other countries (n<5 each)	14	51.9%	13	59.1%	13	54.2%	23	76.6%	14	58.3%	77	60.6%
<b>Total responses</b>	<b>27</b>	<b>100.0%</b>	<b>22</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>30</b>	<b>100.0%</b>	<b>24</b>	<b>100.0%</b>	<b>127</b>	<b>100.0%</b>

Base: respondents indicating they were an international student

Over a third of all respondents (35%) reported speaking at least one language other than English at the home (Table 12). Of the primary non-English languages, the largest group (29%) were Chinese languages followed by Korean (11%) (Table 13). Overall, less than 4% of students identified Māori as their primary language.

**Table 12.** Language(s) spoken, other than English

Language other than English spoken	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	161	32.9%	182	34.7%	195	35.9%	194	37.0%	166	33.5%	898	34.8%
No	329	67.1%	343	65.3%	348	64.1%	331	63.0%	329	66.5%	1680	65.2%
<b>Total responses</b>	<b>490</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>543</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2578</b>	<b>100.0%</b>

Base: all responses

**Table 13.** Primary language spoken, other than English

Primary language	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Mandarin	30	18.6%	36	19.8%	37	19.0%	40	20.6%	34	20.5%	177	19.7%
Cantonese	8	5.0%	6	3.3%	12	6.2%	14	7.2%	9	5.4%	49	5.5%
Chinese, not elsewhere classified	14	8.7%	–	–	–	–	–	–	16	9.6%	30	3.3%
Korean	26	16.1%	13	7.1%	23	11.8%	22	11.3%	15	9.0%	99	11.0%
Arabic	10	6.2%	4	2.2%	12	6.2%	8	4.1%	9	5.4%	43	4.8%
Māori (New Zealand)	7	4.3%	1	0.5%	8	4.1%	10	5.2%	7	4.2%	33	3.7%
Samoa	5	3.1%	4	2.2%	6	3.1%	6	3.1%	10	6.0%	31	3.5%
Hindi	2	1.2%	12	6.6%	9	4.6%	8	4.1%	14	8.4%	45	5.0%
Other (n<10)	59	36.6%	106	58.2%	88	45.1%	86	44.3%	52	31.3%	391	43.5%
<b>Total responses</b>	<b>161</b>	<b>100.0%</b>	<b>182</b>	<b>100.0%</b>	<b>195</b>	<b>100.0%</b>	<b>194</b>	<b>100.0%</b>	<b>166</b>	<b>100.0%</b>	<b>898</b>	<b>100.0%</b>

Base: respondents indicating a language spoken other than English

Among respondents who completed secondary school in New Zealand, 38% attended schools in the Auckland region, 11% in Canterbury, and 10% attended secondary school in the Wellington region (**Table 14**).

**Table 14.** Geographic region of secondary school attended in New Zealand

Geographic region	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Auckland	189	38.3%	203	38.7%	211	38.9%	201	38.3%	176	35.7%	980	38.0%
Bay of Plenty	11	2.2%	23	4.4%	22	4.1%	25	4.8%	28	5.7%	109	4.2%
Canterbury	51	10.3%	58	11.1%	70	12.9%	52	9.9%	50	10.1%	281	10.9%
Gisborne	1	0.2%	–	–	2	0.4%	3	0.6%	–	–	6	0.2%
Hawke's Bay	21	4.3%	14	2.7%	14	2.6%	13	2.5%	8	1.6%	70	2.7%
Manawatu-Whanganui	9	1.8%	17	3.2%	16	3.0%	25	4.8%	20	4.1%	87	3.4%
Marlborough	1	0.2%	4	0.8%	5	0.9%	4	0.8%	3	0.6%	17	0.7%
Nelson	8	1.6%	10	1.9%	8	1.5%	7	1.3%	10	2.0%	43	1.7%
Northland	21	4.3%	11	2.1%	11	2.0%	13	2.5%	14	2.8%	70	2.7%
Otago	20	4.0%	21	4.0%	20	3.7%	22	4.2%	19	3.9%	102	4.0%
Southland	1	0.2%	11	2.1%	7	1.3%	2	0.4%	3	0.6%	24	0.9%
Taranaki	5	1.0%	6	1.1%	9	1.7%	10	1.9%	13	2.6%	43	1.7%
Tasman	3	0.6%	4	0.8%	3	0.6%	2	0.4%	4	0.8%	16	0.6%
Waikato	35	7.1%	36	6.9%	35	6.5%	37	7.0%	47	9.5%	190	7.4%
Wellington	46	9.3%	57	10.9%	53	9.8%	47	9.0%	43	8.7%	246	9.5%
Westland	–	–	–	–	1	0.2%	2	0.4%	1	0.2%	4	0.2%
Correspondence School	1	0.2%	2	0.4%	–	–	2	0.4%	1	0.2%	6	0.2%
Unspecified	71	14.4%	47	9.0%	55	10.1%	58	11.0%	53	10.8%	284	11.0%
<b>Total responses</b>	<b>494</b>	<b>100.0%</b>	<b>524</b>	<b>100.0%</b>	<b>542</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>493</b>	<b>100.0%</b>	<b>2578</b>	<b>100.0%</b>

Base: all responses

### 3.4. Rural background

Respondents were asked to identify the population density of the location in which they had lived longest within New Zealand. Overall, 68% of respondents reported having lived longest in a major city (**Table 15**). Up until the age of 18 years, 61% of respondents reported they had never lived outside a major city, while 22% reported they had lived outside a major city for 13 or more years (**Table 16**).

**Table 15.** Geographic location of longest residency within New Zealand

Geographic location	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Major city (pop. over 100,000)	341	69.7%	366	70.0%	378	69.5%	350	67.2%	314	63.8%	1749	68.1%
Regional centre (pop. 25,000 – 100,000)	59	12.1%	69	13.2%	74	13.6%	84	16.1%	77	15.7%	363	14.1%
Town (pop. 10,000 – 24,999)	26	5.3%	22	4.2%	25	4.6%	25	4.8%	27	5.5%	125	4.9%
Small community (pop. under 10,000)	56	11.5%	55	10.5%	60	11.0%	49	9.4%	58	11.8%	278	10.8%
Not applicable, have lived in NZ < 12 months	7	1.4%	11	2.1%	7	1.3%	13	2.5%	16	3.3%	54	2.1%
<b>Total responses</b>	<b>489</b>	<b>100.0%</b>	<b>523</b>	<b>100.0%</b>	<b>544</b>	<b>100.0%</b>	<b>521</b>	<b>100.0%</b>	<b>492</b>	<b>100.0%</b>	<b>2569</b>	<b>100.0%</b>

Base: all responses

**Table 16.** Total number of years spent outside a major New Zealand city

Number of years between 0-18 years	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
0 years	314	63.4%	326	62.1%	320	58.6%	328	62.5%	288	58.2%	1576	60.9%
1-3 years	23	4.6%	23	4.4%	35	6.4%	27	5.1%	31	6.3%	139	5.4%
4-6 years	19	3.8%	23	4.4%	24	4.4%	23	4.4%	30	6.1%	119	4.6%
7-9 years	16	3.2%	21	4.0%	19	3.5%	16	3.0%	14	2.8%	86	3.3%
10-12 years	22	4.4%	17	3.2%	28	5.1%	15	2.9%	18	3.6%	100	3.9%
13 or more years	101	20.4%	115	21.9%	120	22.0%	116	22.1%	114	23.0%	566	21.9%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>

Base: all responses

Overall, 25% of respondents identified as being from a rural background (**Table 17**), 18% of whom had lived the longest in a major city (**Table 18**) as compared to 85% of those from non-rural backgrounds (**Table 19**).

**Table 17.** Self-perception of rural background

Rural background	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	120	25.0%	124	23.8%	142	26.2%	127	24.4%	133	33.5%	646	25.3%
No	360	75.0%	396	76.2%	401	73.8%	394	75.6%	357	66.5%	1908	74.7%
<b>Total responses</b>	<b>480</b>	<b>100.0%</b>	<b>520</b>	<b>100.0%</b>	<b>543</b>	<b>100.0%</b>	<b>521</b>	<b>100.0%</b>	<b>490</b>	<b>100.0%</b>	<b>2554</b>	<b>100.0%</b>

Base: all responses

**Table 18.** Geographic location of longest residency within New Zealand: rural respondents

Geographic location	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Major city (pop. over 100,000)	25	21.2%	30	24.2%	34	23.9%	14	11.0%	12	9.1%	115	17.9%
Regional centre (pop. 25,000 – 100,000)	26	22.0%	27	21.8%	32	22.5%	43	33.9%	39	29.5%	167	26.0%
Town (pop. 10,000 – 24,999)	19	16.1%	15	12.1%	19	13.4%	22	17.3%	23	17.4%	98	15.2%
Small community (pop. under 10,000)	47	39.8%	52	41.9%	57	40.1%	46	36.2%	57	43.2%	259	40.3%
Not applicable, have lived in NZ < 12 months	1	0.8%	–	–	–	–	2	1.6%	1	0.8%	4	0.6%
<b>Total responses</b>	<b>118</b>	<b>100.0%</b>	<b>124</b>	<b>100.0%</b>	<b>142</b>	<b>100.0%</b>	<b>127</b>	<b>100.0%</b>	<b>132</b>	<b>100.0%</b>	<b>643</b>	<b>100.0%</b>

Base: respondents identifying as rural

**Table 19.** Geographic location of longest residency within New Zealand: non-rural respondents

Geographic location	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Major city (pop. over 100,000)	306	85.5%	333	84.5%	341	85.5%	334	85.4%	298	83.9%	1612	85.0%
Regional centre (pop. 25,000 – 100,000)	31	8.7%	42	10.7%	42	10.5%	41	10.5%	37	10.4%	193	10.2%
Town (pop. 10,000 – 24,999)	6	1.7%	6	1.5%	6	1.5%	3	0.8%	4	1.1%	25	1.3%
Small community (pop. under 10,000)	9	2.5%	3	0.8%	3	0.8%	3	0.8%	1	0.3%	19	1.0%
Not applicable, have lived in NZ < 12 months	6	1.7%	10	2.5%	7	1.8%	10	2.5%	15	4.2%	48	2.5%
<b>Total responses</b>	<b>358</b>	<b>100.0%</b>	<b>394</b>	<b>100.0%</b>	<b>399</b>	<b>100.0%</b>	<b>391</b>	<b>100.0%</b>	<b>355</b>	<b>100.0%</b>	<b>1897</b>	<b>100.0%</b>

Base: respondents identifying as not rural

### 3.5. Admission and previous tertiary education

The majority (95%) of respondents were New Zealand Government-supported (domestic) students (**Table 20**).

**Table 20.** University admission category

University admission category	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Domestic student	463	94.5%	489	95.7%	506	95.1%	471	92.7%	470	94.9%	2399	94.6%
International student	27	5.5%	22	4.3%	26	4.9%	37	7.3%	25	5.1%	137	5.4%
<b>Total responses</b>	<b>490</b>	<b>100.0%</b>	<b>511</b>	<b>100.0%</b>	<b>532</b>	<b>100.0%</b>	<b>508</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2536</b>	<b>100.0%</b>

Base: all responses

Overall, 24% of respondents reported having received scholarships (**Table 21**). Of students' primary scholarships, 67% were identified as New Zealand University scholarships, and 14% as New Zealand Government scholarships (**Table 22**).

**Table 21.** Respondents receiving scholarships

Scholarship	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	104	21.3%	105	20.0%	138	25.3%	135	25.8%	142	28.7%	624	24.2%
No	385	78.7%	419	80.0%	407	74.7%	389	74.2%	353	71.3%	1953	75.8%
<b>Total responses</b>	<b>489</b>	<b>100.0%</b>	<b>524</b>	<b>100.0%</b>	<b>545</b>	<b>100.0%</b>	<b>524</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2577</b>	<b>100.0%</b>

Base: all responses

**Table 22.** Source of primary scholarship

Scholarship	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
New Zealand University scholarship	57	54.8%	51	48.6%	97	70.3%	101	74.8%	114	80.3%	420	67.3%
New Zealand Government scholarship	18	17.3%	21	20.0%	18	13.0%	18	13.3%	12	8.5%	87	13.9%
Home country scholarships to international students	8	7.7%	14	13.3%	8	5.8%	3	2.2%	9	6.3%	42	6.7%
Independent scholarship	19	18.3%	17	16.2%	15	10.9%	11	8.1%	5	3.5%	67	10.7%
Other	2	1.9%	2	1.9%	–	–	2	1.5%	2	1.4%	8	1.3%
<b>Total responses</b>	<b>104</b>	<b>100.0%</b>	<b>105</b>	<b>100.0%</b>	<b>138</b>	<b>100.0%</b>	<b>135</b>	<b>100.0%</b>	<b>142</b>	<b>100.0%</b>	<b>624</b>	<b>100%</b>

Base: respondents holding scholarships

Overall, 33% of respondents reported having at least one tertiary qualification (**Table 23**). Of these, most were Bachelor degrees (77%) (**Table 24**), 40% were Medical Sciences degrees, 28% Science degrees, and 24% Health/Allied Health degrees (**Table 25**).

**Table 23.** Respondents with tertiary qualifications

Tertiary Qualification	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	162	32.7%	165	31.4%	169	31.0%	184	35.0%	170	34.3%	850	32.9%
No	333	67.3%	360	68.6%	377	69.0%	341	65.0%	325	65.7%	1736	67.1%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>

Base: all responses

**Table 24.** Highest qualification of those with a tertiary qualification

Qualification	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Associate degree	3	1.9%	3	1.8%	6	3.6%	14	7.6%	10	5.9%	36	4.2%
Bachelor degree	131	80.9%	129	78.2%	131	77.5%	140	76.1%	123	72.4%	654	76.9%
Honours degree	13	8.0%	5	3.0%	13	7.7%	7	3.8%	6	3.5%	44	5.2%
Postgraduate Diploma/ Certificate	6	3.7%	12	7.3%	5	3.0%	9	4.9%	14	8.2%	46	5.4%
Masters degree	6	3.7%	11	6.7%	10	5.9%	9	4.9%	10	5.9%	46	5.4%
PhD	3	1.9%	5	3.0%	4	2.4%	4	2.2%	6	3.5%	22	2.6%
Other	–	–	–	–	–	–	1	0.5%	1	0.6%	2	0.2%
<b>Total responses</b>	<b>162</b>	<b>100.0%</b>	<b>165</b>	<b>100.0%</b>	<b>169</b>	<b>100.0%</b>	<b>184</b>	<b>100.0%</b>	<b>170</b>	<b>100.0%</b>	<b>850</b>	<b>100.0%</b>

Base: responses from respondents with a tertiary qualification

**Table 25.** Discipline of highest tertiary qualification

Discipline	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Commerce/Business/Law	3	1.9%	6	3.7%	3	1.8%	2	1.1%	–	–	14	1.7%
Health/Allied health	40	25.2%	44	27.0%	28	17.1%	45	24.7%	41	24.3%	198	23.7%
Humanities	9	5.7%	7	4.3%	11	6.7%	6	3.3%	5	3.0%	38	4.5%
Medical Science	47	29.6%	64	39.3%	81	49.4%	69	37.9%	74	43.8%	335	40.0%
Physical Science	2	1.3%	4	2.5%	3	1.8%	1	0.5%	5	3.0%	15	1.8%
Science	58	36.5%	38	23.3%	38	23.2%	59	32.4%	44	26.0%	237	28.3%
<b>Total responses</b>	<b>159</b>	<b>100.0%</b>	<b>163</b>	<b>100.0%</b>	<b>164</b>	<b>100.0%</b>	<b>182</b>	<b>100.0%</b>	<b>169</b>	<b>100.0%</b>	<b>837</b>	<b>100.0%</b>

Base: responses from respondents with a tertiary qualification



The majority of respondents reported they received financial support from New Zealand Government Student Loans (78%) and/or from family (58%). Students were also supported by paid employment (44%), other forms of Government assistance such as a student allowance (33%) and by scholarships (26%) (Table 26). Eighty-one percent of respondents indicated receiving more than one source of income support (Table 27).

**Table 26.** Source(s) of income supporting study

Income source	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
NZ Government Student Loan	393	79.4%	426	81.1%	403	73.8%	388	73.9%	400	80.8%	2010	77.7%
NZ Government Student allowance	141	28.5%	160	30.5%	205	37.5%	184	35.0%	153	30.9%	843	32.6%
Supported by family	301	60.8%	320	61.0%	278	50.9%	316	60.2%	278	56.2%	1493	57.7%
Paid employment	221	44.6%	235	44.8%	247	45.2%	214	40.8%	220	44.4%	1137	44.0%
Scholarship*	129	26.1%	115	21.9%	146	26.7%	–	–	145	29.3%	535	26.0%
Savings/trust fund	110	22.2%	104	19.8%	96	17.6%	109	20.8%	110	22.2%	529	20.5%
Personal loan	9	1.8%	8	1.5%	38	7.0%	7	1.3%	1	0.2%	63	2.4%
Other	1	0.2%	6	1.1%	1	0.2%	23	4.4%	5	1.0%	36	1.4%

Base: all respondents; percentages total more than 100% as multiple responses were accepted

\*2018 data incomplete

**Table 27.** Number of source(s) of income supporting study

No. of Income sources	2015		2016		2017		2018*		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
0	5	1.0%	2	0.4%	16	2.9%	2	0.4%	1	0.2%	26	1.0%
1	78	15.8%	99	18.9%	119	21.8%	100	19.0%	83	16.8%	479	18.5%
2	148	29.9%	208	39.6%	156	28.6%	175	33.3%	145	29.3%	832	32.2%
3	169	34.1%	138	26.3%	176	32.2%	167	31.8%	151	30.5%	801	31.0%
4	65	13.1%	61	11.6%	61	11.2%	67	12.8%	92	18.6%	346	13.4%
5 or more	30	6.1%	17	3.2%	18	3.3%	14	2.7%	23	4.6%	102	3.9%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>

Base: all respondents

\*2018 data incomplete

### 3.6. Future medical practice

Overall, 90% of respondents indicated a first preference to practise in New Zealand (**Table 28**); this proportion being greater (92%) for domestic respondents (**Table 29**) than for international respondents (58%) (**Table 30**).

**Table 28.** First preference of country of future practice

Country	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
New Zealand	446	90.1%	476	90.7%	488	89.4%	473	90.1%	447	90.3%	2330	90.1%
Country other than NZ	49	9.9%	49	9.3%	58	10.6%	52	9.9%	48	9.7%	256	9.9%
<b>Total responses</b>	<b>495</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>546</b>	<b>100.0%</b>	<b>525</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>2586</b>	<b>100.0%</b>

Base: all responses

**Table 29.** First preference of country of future practice: domestic students

Country	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
New Zealand	425	91.8%	454	92.8%	460	90.9%	433	91.9%	432	91.9%	2204	91.9%
Country other than NZ	38	8.2%	35	7.2%	46	9.1%	38	8.1%	38	8.1%	195	8.1%
<b>Total responses</b>	<b>463</b>	<b>100.0%</b>	<b>489</b>	<b>100.0%</b>	<b>506</b>	<b>100.0%</b>	<b>471</b>	<b>100.0%</b>	<b>470</b>	<b>100.0%</b>	<b>2399</b>	<b>100.0%</b>

Base: responses from respondents indicating they were a domestic student

**Table 30.** First preference of country of future practice: international students

Country	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
New Zealand	17	63.0%	9	40.9%	14	53.8%	24	64.9%	15	60.0%	79	57.7%
Country other than NZ	10	37.0%	13	59.1%	12	46.2%	13	35.1%	10	40.0%	58	42.3%
<b>Total responses</b>	<b>27</b>	<b>100.0%</b>	<b>22</b>	<b>100.0%</b>	<b>26</b>	<b>100.0%</b>	<b>37</b>	<b>100.0%</b>	<b>25</b>	<b>100.0%</b>	<b>137</b>	<b>100.0%</b>

Base: responses from respondents indicating they were as international student

Up to three preferences of where to work could be selected. Respondents consistently indicated their first preference for region in which to practise within New Zealand was Auckland (38%), followed by the Wellington region (14%) and Canterbury (9%) (**Table 31**). Westland was the least favoured region, selected by fewer than 1% of respondents, followed by Tasman (0.3%) and Marlborough (0.5%).

**Table 31.** First, second, and third preferences for regions of future practice

Region	2015			2016			2017			2018			2019			Total		
	n=489	482	464	n=518	490	465	n=543	525	501	n=519	509	492	n=488	475	458	n=2557	2481	2380
	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %
Northland	5.1%	8.9%	6.9%	4.8%	8.2%	6.2%	4.6%	7.6%	5.4%	4.0%	6.7%	4.7%	4.5%	6.7%	3.7%	4.6%	7.6%	5.4%
Auckland	43.6%	15.1%	10.1%	37.5%	16.5%	8.8%	38.9%	14.5%	7.8%	37.4%	14.5%	11.0%	34.0%	16.8%	9.2%	38.2%	15.5%	9.4%
Waikato/Taupo	5.1%	7.3%	5.6%	5.6%	11.0%	8.0%	4.8%	7.8%	8.0%	3.9%	9.8%	8.3%	5.3%	9.3%	12.2%	4.9%	9.0%	8.4%
Bay of Plenty	3.7%	4.8%	6.7%	5.4%	4.5%	7.1%	5.5%	7.0%	6.0%	5.4%	7.7%	5.7%	8.6%	7.6%	4.8%	5.7%	6.3%	6.1%
Gisborne	0.8%	0.8%	1.3%	0.4%	0.2%	–	1.3%	1.3%	1.8%	0.6%	1.0%	1.6%	0.6%	1.5%	1.3%	0.7%	1.0%	1.2%
Manawatu/Whanganui	1.2%	1.2%	0.6%	1.4%	0.8%	1.5%	1.7%	1.7%	1.2%	1.2%	0.8%	1.6%	0.6%	1.5%	0.9%	1.2%	1.2%	1.2%
Hawke’s Bay	3.3%	5.2%	3.0%	1.5%	2.4%	2.6%	1.5%	2.3%	2.6%	2.3%	2.4%	3.7%	1.0%	1.7%	2.4%	1.9%	2.8%	2.9%
Taranaki	0.8%	1.5%	1.3%	1.5%	1.2%	1.1%	1.1%	1.7%	1.6%	1.9%	2.6%	1.6%	1.6%	1.3%	1.7%	1.4%	1.7%	1.5%
Wellington region	12.1%	18.3%	17.7%	14.9%	16.7%	15.5%	12.0%	17.7%	18.2%	16.6%	17.1%	14.4%	13.9%	15.6%	14.6%	13.9%	17.1%	16.1%
Westland	0.2%	0.6%	0.2%	–	0.6%	1.7%	–	0.2%	1.4%	0.4%	0.2%	1.0%	0.4%	0.2%	1.3%	0.2%	0.4%	1.1%
Marlborough	0.2%	1.2%	1.1%	0.4%	1.0%	1.5%	0.7%	0.4%	2.2%	0.4%	1.0%	2.2%	1.0%	0.6%	1.7%	0.5%	0.8%	1.8%
Tasman	0.6%	0.6%	0.4%	0.2%	0.4%	0.2%	0.4%	0.7%	0.7%	–	0.4%	0.4%	0.2%	0.8%	0.2%	0.3%	0.6%	0.4%
Nelson	1.0%	3.9%	5.0%	2.3%	2.7%	4.5%	0.6%	3.4%	3.6%	1.2%	2.4%	4.3%	0.6%	2.3%	5.7%	1.1%	2.9%	4.6%
Canterbury	6.7%	6.2%	8.2%	8.3%	6.9%	9.0%	10.3%	6.5%	8.4%	8.9%	9.0%	5.9%	12.5%	7.4%	7.9%	9.4%	7.2%	7.9%
Otago	5.1%	8.1%	9.1%	5.6%	9.2%	9.7%	5.2%	10.1%	9.2%	5.8%	7.1%	12.6%	4.1%	11.8%	10.3%	5.2%	9.2%	10.2%
Southland	0.4%	0.6%	0.9%	0.8%	1.8%	1.3%	0.9%	0.8%	2.0%	0.2%	1.6%	1.0%	0.8%	1.5%	0.7%	0.6%	1.2%	1.2%
Country other than NZ	10.0%	15.6%	22.0%	9.5%	15.7%	21.3%	10.7%	16.2%	20.0%	10.0%	15.9%	19.9%	9.8%	13.5%	21.4%	10.0%	15.4%	20.9%
<b>Total responses</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Base: all responses

The majority of respondents (69%) chose a major city as their preferred geographical location of future medical practice, with 17% preferring to work in a regional centre (Table 32).. Nine and 4% preferred to work in small town and community respectively.

Thirty-two percent of respondents who considered themselves to be from a rural background reported that their preferred location of future practice was outside a major city or regional centre (Table 33), compared with 6% of respondents who did not consider themselves to be from a rural background (Table 34).

**Table 32.** Preferred population centre size of future practice

Preferred population centre size	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Major city (pop. over 100,000)	325	67.1%	353	68.1%	363	67.0%	375	71.7%	342	70.1%	1758	68.8%
Regional centre (pop. 25,000 – 100,000)	87	18.0%	86	16.6%	93	17.2%	88	16.8%	76	15.6%	430	16.8%
Town (pop. 10,000 – 24,999)	43	8.9%	60	11.6%	48	8.9%	34	6.5%	39	8.0%	224	8.8%
Small community (pop. under 10,000)	20	4.1%	10	1.9%	28	5.2%	19	3.6%	24	4.9%	101	4.0%
Not applicable, not intending to work in NZ	9	1.9%	9	1.7%	10	1.8%	7	1.3%	7	1.4%	42	1.6%
<b>Total responses</b>	<b>484</b>	<b>100.0%</b>	<b>518</b>	<b>100.0%</b>	<b>542</b>	<b>100.0%</b>	<b>523</b>	<b>100.0%</b>	<b>488</b>	<b>100.0%</b>	<b>2555</b>	<b>100.0%</b>

Base: all responses

**Table 33.** Preferred population centre size of future practice: rural respondents

Preferred population centre size	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Major city (pop. over 100,000)	49	41.2%	52	42.3%	46	32.9%	48	37.8%	42	32.1%	237	37.0%
Regional centre (pop. 25,000 – 100,000)	32	26.9%	34	27.6%	38	27.1%	45	35.4%	39	29.8%	188	29.4%
Town (pop. 10,000 – 24,999)	19	16.0%	28	22.8%	29	20.7%	23	18.1%	27	20.6%	126	19.7%
Small community (pop. under 10,000)	17	14.3%	8	6.5%	23	16.4%	10	7.9%	20	15.3%	78	12.2%
Not applicable, not intending to work in NZ	2	1.7%	1	0.8%	4	2.9%	1	0.8%	3	2.3%	11	1.7%
<b>Total responses</b>	<b>119</b>	<b>100.0%</b>	<b>123</b>	<b>100.0%</b>	<b>140</b>	<b>100.0%</b>	<b>127</b>	<b>100.0%</b>	<b>131</b>	<b>100.0%</b>	<b>640</b>	<b>100.0%</b>

Base: responses from respondents identifying as rural

**Table 34.** Preferred population centre size of future practice: non-rural respondents

Preferred population centre size	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Major city (pop. over 100,000)	266	75.8%	300	76.9%	315	78.9%	326	83.2%	298	84.4%	1505	79.8%
Regional centre (pop. 25,000 – 100,000)	53	15.1%	50	12.8%	54	13.5%	41	10.5%	36	10.2%	234	12.4%
Town (pop. 10,000 – 24,999)	22	6.3%	31	7.9%	19	4.8%	11	2.8%	11	3.1%	94	5.0%
Small community (pop. under 10,000)	3	0.9%	2	0.5%	5	1.3%	9	2.3%	4	1.1%	23	1.2%
Not applicable, not intending to work in NZ	7	2.0%	7	1.8%	6	1.5%	5	1.3%	4	1.1%	29	1.5%
<b>Total responses</b>	<b>351</b>	<b>100.0%</b>	<b>390</b>	<b>100.0%</b>	<b>399</b>	<b>100.0%</b>	<b>392</b>	<b>100.0%</b>	<b>353</b>	<b>100.0%</b>	<b>1885</b>	<b>100.0%</b>

Base: responses from respondents identifying as non-rural

Respondents who had decided on their area of specialisation were asked to identify their preferred specialty; if they had not decided on their area of specialisation they were asked to rank up to three preferred areas of interest. Just over a quarter (26%) of respondents stated that they had decided their specialty preference (**Table 35**). Surgery (24%) was consistently the most preferred area of specialisation, followed by General Practice (15%), Paediatrics and Child Health (13%), and Emergency Medicine (10%) (**Table 36**).

These specialties were the top preferences whether respondents had (**Table 37**), or had not (**Table 38**), decided on an area of specialisation.

**Table 35.** Decided on specialisation

Decided on specialisation	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	131	26.6%	139	26.6%	142	26.1%	115	21.9%	150	30.4%	677	26.3%
No	362	73.4%	384	73.4%	403	73.9%	409	78.1%	344	69.6%	1902	73.7%
<b>Total responses</b>	<b>493</b>	<b>100.0%</b>	<b>523</b>	<b>100.0%</b>	<b>545</b>	<b>100.0%</b>	<b>524</b>	<b>100.0%</b>	<b>494</b>	<b>100.0%</b>	<b>2579</b>	<b>100.0%</b>

Base: all responses

**Table 36.** First preference of specialisation for all respondents

First preference of specialisation	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Addiction Medicine	1	0.2%	1	0.2%	–	–	–	–	1	0.2%	3	0.1%
Adult / Internal Medicine	19	4.3%	17	3.6%	13	2.7%	22	4.7%	19	4.4%	90	3.8%
Anaesthesia	16	3.6%	16	3.4%	16	3.4%	28	6.0%	21	4.8%	97	4.1%
Dermatology	10	2.2%	9	1.9%	9	1.9%	9	1.9%	10	2.3%	47	2.0%
Emergency Medicine	41	9.2%	63	13.5%	39	8.2%	47	10.1%	49	11.3%	239	10.1%
General Practice	67	15.0%	61	13.0%	80	16.8%	77	16.5%	66	15.2%	351	14.8%
Indigenous Health	5	1.1%	2	0.4%	2	0.4%	4	0.9%	4	0.9%	17	0.7%
Intensive Care Medicine	4	0.9%	4	0.9%	3	0.6%	4	0.9%	7	1.6%	22	0.9%
Medical Administration	1	0.2%	–	–	–	–	–	–	2	0.5%	3	0.1%
Non-specialist Hospital Practice	–	–	–	–	2	0.4%	–	–	1	0.2%	3	0.1%
Obstetrics and Gynaecology	24	5.4%	21	4.5%	26	5.5%	20	4.3%	29	6.7%	120	5.1%
Occupational and Environmental Medicine	–	–	–	–	–	–	1	0.2%	–	–	1	0.0%
Ophthalmology	7	1.6%	14	3.0%	11	2.3%	11	2.4%	7	1.6%	50	2.1%
Oral and Maxillofacial Surgery*	–	–	2	0.4%	1	0.2%	–	–	–	–	3	0.1%
Paediatrics and Child Health	71	15.9%	62	13.2%	67	14.1%	59	12.7%	52	12.0%	311	13.1%
Palliative Medicine	2	0.4%	–	–	3	0.6%	1	0.2%	–	–	6	0.3%
Pathology	8	1.8%	11	2.4%	14	2.9%	10	2.1%	3	0.7%	46	1.9%
Psychiatry	13	2.9%	19	4.1%	23	4.8%	26	5.6%	22	5.1%	103	4.3%
Public Health Medicine	5	1.1%	5	1.1%	7	1.5%	5	1.1%	2	0.5%	24	1.0%
Radiation Oncology	7	1.6%	10	2.1%	5	1.1%	3	0.6%	10	2.3%	35	1.5%
Radiology	5	1.1%	3	0.6%	5	1.1%	5	1.1%	6	1.4%	24	1.0%
Rehabilitation Medicine	1	0.2%	1	0.2%	2	0.4%	–	–	1	0.2%	5	0.2%
Rural and Remote Medicine	7	1.6%	8	1.7%	9	1.9%	5	1.1%	7	1.6%	36	1.5%
Sexual Health Medicine	–	–	1	0.2%	1	0.2%	2	0.4%	–	–	4	0.2%
Sports & Exercise Medicine	9	2.0%	19	4.1%	13	2.7%	17	3.6%	8	1.8%	66	2.8%
Surgery	122	27.3%	119	25.4%	121	25.5%	109	23.4%	108	24.8%	579	24.4%
Other	16	3.5%	15	3.1%	23	4.6%	21	4.3%	14	3.1%	89	3.7%
<b>Total responses</b>	<b>461</b>	<b>100.0%</b>	<b>483</b>	<b>100.0%</b>	<b>495</b>	<b>100.0%</b>	<b>486</b>	<b>100.0%</b>	<b>449</b>	<b>100.0%</b>	<b>2374</b>	<b>100.0%</b>

Base: all responses

\*Oral and Maxillofacial Surgery option removed from questionnaire in 2018

**Table 37.** First preference in specialisation of respondents who **had decided** on their speciality

First preference of specialisation	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Adult / Internal Medicine	3	2.3%	2	1.4%	3	2.1%	2	1.8%	4	2.7%	14	2.1%
Anaesthesia	2	1.5%	2	1.4%	3	2.1%	3	2.7%	4	2.7%	14	2.1%
Dermatology	4	3.1%	2	1.4%	1	0.7%	—	—	3	2.0%	10	1.5%
Emergency Medicine	11	8.5%	21	15.1%	14	9.9%	9	8.0%	12	8.1%	67	10.0%
General Practice	19	14.6%	15	10.8%	26	18.3%	17	15.2%	22	14.8%	99	14.7%
Indigenous Health	1	0.8%	—	—	1	0.7%	—	—	—	—	2	0.3%
Intensive Care Medicine	—	—	—	—	—	—	1	0.9%	4	2.7%	5	0.7%
Medical administration	—	—	—	—	—	—	—	—	1	0.7%	1	0.1%
Obstetrics and Gynaecology	6	4.6%	7	5.0%	3	2.1%	5	4.5%	10	6.7%	31	4.6%
Ophthalmology	—	—	3	2.2%	5	3.5%	3	2.7%	3	2.0%	14	2.1%
Oral and Maxillofacial Surgery*	—	—	1	0.7%	—	—	—	—	—	—	1	0.1%
Paediatrics and Child Health	18	13.8%	14	10.1%	14	9.9%	17	15.2%	16	10.7%	79	11.8%
Palliative Medicine	—	—	—	—	2	1.4%	—	—	—	—	2	0.3%
Pathology	2	1.5%	6	4.3%	7	4.9%	1	0.9%	1	0.7%	17	2.5%
Psychiatry	5	3.8%	6	4.3%	9	6.3%	10	8.9%	7	4.7%	37	5.5%
Public Health Medicine	1	0.8%	2	1.4%	1	0.7%	—	—	—	—	4	0.6%
Radiation Oncology	1	0.8%	6	4.3%	1	0.7%	2	1.8%	4	2.7%	14	2.1%
Radiology	—	—	1	0.7%	1	0.7%	1	0.9%	2	1.3%	5	0.7%
Rehabilitation Medicine	—	—	—	—	1	0.7%	—	—	—	—	1	0.1%
Rural and Remote Medicine	3	2.3%	—	—	3	2.1%	2	1.8%	3	2.0%	11	1.6%
Sexual Health Medicine	—	—	1	0.7%	1	0.7%	—	—	—	—	2	0.3%
Sports & Exercise Medicine	3	2.3%	4	2.9%	2	1.4%	3	2.7%	3	2.0%	15	2.2%
Surgery	44	33.8%	41	29.5%	36	25.4%	33	29.5%	41	27.5%	195	29.0%
Other	7	5.4%	5	3.6%	8	5.6%	3	2.7%	9	6.0%	32	4.8%
<b>Total responses</b>	<b>130</b>	<b>100.0%</b>	<b>139</b>	<b>100.0%</b>	<b>142</b>	<b>100.0%</b>	<b>112</b>	<b>100.0%</b>	<b>149</b>	<b>100.0%</b>	<b>672</b>	<b>100.0%</b>

Base: respondents who had decided on their speciality

\*Oral and Maxillofacial Surgery option removed from questionnaire in 2018

**Table 38.** First, second, and third preferences of specialty for respondents who had **not decided** on their specialty

Specialty	2015			2016			2017			2018			2019			Total		
	n=331	325	319	344	339	331	353	353	343	374	372	368	300	299	295	1702	1688	1656
	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %
Addiction Medicine	0.3%	0.3%	0.3%	0.3%	–	0.3%	–	–	0.3%	–	0.5%	–	0.3%	–	1.0%	0.2%	0.2%	0.4%
Adult / Internal Medicine	4.8%	2.5%	4.7%	4.4%	3.2%	4.2%	2.8%	3.1%	2.9%	5.3%	6.2%	3.5%	5.0%	4.0%	4.4%	4.5%	3.9%	3.9%
Anaesthesia	4.2%	8.3%	5.3%	4.1%	4.7%	7.6%	3.7%	6.5%	5.0%	6.7%	5.6%	4.1%	5.7%	7.4%	6.4%	4.9%	6.5%	5.6%
Dermatology	1.8%	4.9%	2.5%	2.0%	2.4%	3.6%	2.3%	1.4%	4.7%	2.4%	4.6%	3.8%	2.3%	6.7%	3.4%	2.2%	3.9%	3.6%
Emergency Medicine	9.1%	14.5%	13.8%	12.2%	16.2%	8.8%	7.1%	10.2%	11.1%	10.2%	14.0%	8.4%	12.3%	12.7%	6.8%	10.1%	13.5%	9.8%
General Practice	14.5%	10.2%	16.9%	13.4%	12.4%	15.4%	15.3%	12.7%	17.2%	16.0%	14.0%	16.0%	14.7%	12.0%	12.5%	14.8%	12.3%	15.7%
Indigenous Health	1.2%	1.2%	1.3%	0.6%	1.5%	2.1%	0.3%	2.0%	1.2%	1.1%	1.9%	3.0%	1.3%	1.0%	3.1%	0.9%	1.5%	2.1%
Intensive Care Medicine	1.2%	1.8%	3.1%	1.2%	1.2%	4.2%	0.8%	3.1%	3.5%	0.8%	3.0%	5.4%	1.0%	3.0%	3.1%	1.0%	2.4%	3.9%
Medical administration	0.3%	1.2%	0.9%	–	0.6%	3.0%	–	0.3%	1.7%	–	–	1.6%	0.3%	0.7%	2.7%	0.1%	0.5%	2.0%
Non-specialist Hospital Practice	–	–	0.6%	–	0.6%	1.5%	0.6%	0.3%	0.9%	–	0.5%	0.8%	0.3%	1.3%	0.7%	0.2%	0.5%	0.9%
Obstetrics and Gynaecology	5.4%	5.5%	2.5%	4.1%	5.6%	2.7%	6.5%	7.1%	5.5%	4.0%	4.6%	2.7%	6.3%	4.7%	5.8%	5.2%	5.5%	3.8%
Occupational and Environmental Medicine	–	–	–	–	0.3%	–	–	–	–	0.3%	–	–	–	0.3%	–	0.1%	0.1%	–
Oncology	–	0.9%	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.2%	–
Ophthalmology	2.1%	2.2%	2.5%	3.2%	1.5%	1.2%	1.7%	1.4%	0.6%	2.1%	1.1%	2.7%	1.3%	2.0%	2.0%	2.1%	1.6%	1.8%
Oral and Maxillofacial Surgery*	–	0.3%	0.9%	0.3%	0.3%	0.6%	0.3%	1.1%	0.9%	–	–	–	–	–	–	0.1%	0.4%	0.5%



Specialty	2015			2016			2017			2018			2019			Total		
	n=331	325	319	344	339	331	353	353	343	374	372	368	300	299	295	1702	1688	1656
	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %	1 <sup>st</sup> %	2 <sup>nd</sup> %	3 <sup>rd</sup> %
Paediatrics and Child Health	16.0%	10.5%	7.8%	14.0%	10.9%	10.9%	15.0%	12.2%	7.9%	11.2%	13.7%	9.0%	12.0%	13.7%	8.8%	13.6%	12.2%	8.9%
Pain Medicine	–	–	–	–	0.6%	1.2%	–	0.3%	0.6%	–	0.3%	0.8%	–	–	0.7%	–	0.2%	0.7%
Palliative Medicine	0.6%	0.6%	0.9%	–	0.3%	1.2%	0.3%	–	0.6%	0.3%	0.8%	1.4%	–	0.3%	0.7%	0.2%	0.4%	1.0%
Pathology	1.8%	1.2%	2.2%	1.5%	2.9%	1.8%	2.0%	3.4%	2.0%	2.4%	2.4%	3.5%	0.7%	2.3%	2.4%	1.7%	2.5%	2.4%
Psychiatry	2.4%	5.2%	3.4%	3.8%	3.2%	4.8%	4.0%	4.8%	6.4%	4.3%	3.0%	5.7%	5.0%	3.3%	5.4%	3.9%	3.9%	5.2%
Public Health Medicine	1.2%	3.1%	1.6%	0.9%	1.8%	3.0%	1.7%	3.4%	4.4%	1.3%	2.4%	4.1%	0.7%	1.7%	2.4%	1.2%	2.5%	3.1%
Radiation Oncology	1.8%	1.8%	3.8%	1.2%	1.2%	0.6%	1.1%	2.3%	1.2%	0.3%	1.1%	1.1%	2.0%	1.3%	2.0%	1.2%	1.5%	1.7%
Radiology	1.5%	1.5%	3.1%	0.6%	0.9%	2.7%	1.1%	2.5%	1.7%	1.1%	2.2%	0.8%	1.3%	1.3%	3.4%	1.1%	1.7%	2.3%
Rehabilitation Medicine	0.3%	0.3%	0.3%	0.3%	–	0.6%	0.3%	0.3%	0.3%	–	–	0.8%	0.3%	0.3%	0.7%	0.2%	0.2%	0.5%
Rural and Remote Medicine	1.2%	2.8%	4.1%	2.3%	3.5%	2.1%	1.7%	1.4%	5.2%	0.8%	1.3%	3.8%	1.3%	2.3%	2.4%	1.5%	2.3%	3.6%
Sexual Health Medicine	–	–	0.9%	–	0.6%	–	–	0.6%	0.9%	0.5%	–	0.8%	–	0.3%	0.3%	0.1%	0.3%	0.6%
Sports & Exercise Medicine	1.8%	3.7%	3.8%	4.4%	4.7%	2.7%	3.1%	4.2%	4.1%	3.7%	2.2%	3.0%	1.7%	3.0%	3.4%	3.0%	3.6%	3.4%
Surgery	23.6%	13.5%	10.7%	22.7%	17.4%	10.6%	24.1%	12.7%	7.9%	20.3%	13.2%	10.3%	22.3%	11.0%	13.9%	22.6%	13.6%	10.6%
Other	2.7%	1.8%	1.9%	2.9%	1.5%	2.4%	4.2%	2.5%	1.5%	4.8%	1.6%	2.7%	1.7%	3.0%	1.7%	3.3%	2.1%	2.1%
<b>Total responses</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Base: respondents who had **not** decided on their specialty;

\*Oral and Maxillofacial Surgery option removed from questionnaire in 2018

Overall, 37% of respondents indicated an interest in medical teaching (**Table 39**), and a similar proportion (38%) in medical research (**Table 40**), with significant proportions undecided on each prospect (56% and 48% respectively) (**Table 39, Table 40**).

**Table 39.** Respondents' interest in medical teaching

Interest in medical teaching	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	233	47.2%	113	21.6%	197	36.2%	216	41.3%	188	38.1%	947	36.7%
No	33	6.7%	24	4.6%	44	8.1%	47	9.0%	50	10.1%	198	7.7%
Undecided	228	46.2%	386	73.8%	303	55.7%	260	49.7%	255	51.7%	1432	55.6%
<b>Total responses</b>	<b>494</b>	<b>100.0%</b>	<b>523</b>	<b>100.0%</b>	<b>544</b>	<b>100.0%</b>	<b>523</b>	<b>100.0%</b>	<b>493</b>	<b>100.0%</b>	<b>2577</b>	<b>100.0%</b>

*Base: all responses*

**Table 40.** Respondents' interest in research

Interest in medical research	2015		2016		2017		2018		2019		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	247	50.0%	123	23.5%	211	38.7%	207	39.6%	184	37.2%	972	37.7%
No	77	15.6%	28	5.3%	84	15.4%	85	16.3%	85	17.2%	359	13.9%
Undecided	170	34.4%	373	71.2%	250	45.9%	231	44.2%	225	45.5%	1249	48.4%
<b>Total responses</b>	<b>494</b>	<b>100.0%</b>	<b>524</b>	<b>100.0%</b>	<b>545</b>	<b>100.0%</b>	<b>523</b>	<b>100.0%</b>	<b>494</b>	<b>100.0%</b>	<b>2580</b>	<b>100.0%</b>

*Base: all responses*

## 4. Discussion

This report of cumulative national data on medical student demographics and career intentions at commencement of their programmes is based on the years 2015-2019. Given the response rates and no reason to suggest the data are inherently biased, the data are robust.

### Demographics

Ninety-two percent of commencing University of Auckland and University of Otago medical students completed CMSQs between 2015 and 2019. Of the responders, 59% were female, 94% were New Zealand citizens or Permanent Residents, 67% had been born in New Zealand, and 91% were under 25 years of age. One third (33%) held a tertiary qualification.

Fifteen percent of respondents identified as Māori and 7% as Pacific people: this approaches the 2015 New Zealand projected population figures of 16% and 8% respectively<sup>2</sup>.

A quarter (25%) of students reported coming from a rural background, though nearly one in five (18%) of these students had resided longest in a major city.

### Future career intentions

The career intention responses should be interpreted with caution because, over the course of the programme, and after graduation:

- Students' career intentions may change significantly; and,
- Students levels of certainty may change<sup>3</sup>.

However, some early observations are possible from this cumulative data:

1. There is remarkable stability in the student demography and choices from cohort to cohort.
2. Where there are trends they are slight.
  - a. Fewer students intend to practise in Auckland.
  - b. More students intend to practise in New Zealand.
3. Students from a rural background are more likely to choose to work outside a major urban centre than those from non-rural backgrounds.
4. Approximately three-quarters of the students had not yet decided on a specialty preference. This is not an unexpected finding as students at entry have limited knowledge about what the different medical disciplines are.
5. On entry to medical school, surgery is the most popular first choice of career, both for those who have decided, and for those who are undecided on their future career. General Practice, Paediatrics and Child Health, and Emergency Medicine round out the top four choices for both groups of students.

The real value of the MSOD project is longitudinal follow up of each student to determine changes in patterns, such as career intentions over time. This way, we can determine associations with medical school and postgraduate experiences. The results in this report, from students who have just entered medical school, can only reflect the effects of self-selection and admission activities, and cannot represent any effects of the curricula. Once the project has been running long enough to understand the effects of demographics, initial career choices, curricula and postgraduate experience on eventual career, these datasets will be far more informative.

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<sup>2</sup> New Zealand in Profile 2015, Statistics New Zealand, Tauranga Aotearoa, 2015

<sup>3</sup> Goldacre M, Laxton L, Lambert T. Medical graduates' early career choices of specialty and their eventual specialty destinations: UK prospective cohort studies. *BMJ* 2010;341:c3199